

Amendments to the Claims:

Listing of Claims

1. (Currently Amended) A method for managing the preparation of a set of graphical elements for presentation, the method comprising:

identifying a first subset of the elements where measurement is desirable, wherein each element in the first subset has associated with it a respective island of elements and wherein identifying the first subset comprises using a first data structure to represent the first subset of the elements;

identifying a second subset of the elements where arrangement is desirable, wherein each element in the second subset has associated with it a respective island of elements and wherein identifying the second subset comprises using a second data structure to represent the second subset of the elements;

executing a first series of operations for measuring the elements comprising the first subset, wherein an operation of the first series of operations includes, determining whether each element in the first subset has any children and computing a size for any elements in the first subset having children, wherein the first series of operations further comprises:

a) identifying a maximal element represented in the first data structure;

b) removing the maximal element's representation in the first data structure;

c) measuring the maximal element;

d) determining that a child element represented on the first data structure is a baby element when a parent element of the child element is being added to the first data structure;

e) removing from the baby element from the first data structure to minimize the number of elements in the first data structure; and

repeating the listed steps until the first data structure is empty; and

executing a second series of operations for arranging the elements comprising the second subset.

2-3. (Canceled)

4. (Currently Amended) The method of claim 1 [[3]] wherein the first and second data structures are queues.
5. (Canceled)
6. (Currently Amended) The method of claim 1 [[3]] wherein the second series of operations comprises:
- a) identifying a maximal element represented in the second data structure;
 - b) removing the maximal element's representation in the second data structure;
 - c) arranging the maximal element; and
- repeating the listed steps until the second data structure is empty.
7. (Currently Amended) The method of claim 1 [[5]] wherein step c) comprises measuring an element from the island associated with the maximal element.
8. (Currently Amended) The method of claim 1 [[5]] wherein step c) comprises:
- determining whether an element from the island associated with the maximal element requires measuring.
9. (Currently Amended) The method of claim 1 [[5]] wherein the first series of operations further comprises:
- f[[d]]) notifying a parent element of the maximal element that the measurements of the maximal element have changed.
10. (Original) The method of claim 9 wherein, in response to the notification, a representation of the parent element is placed in the first data structure.
11. (Currently Amended) The method of claim 1 [[3]] wherein the number of elements represented in the first data structure cannot exceed a fixed maximum number.

12. (Currently Amended) The method of claim 1 wherein the number of elements represented in the second data structure does not exceed a fixed maximum number.

13. (Currently Amended) The method of claim 1 wherein the first series of operations further comprises:

f[[d]]) determining that an orphan element represented on the first data structure is not to be measured; and

g[[e]]) removing from the data structure the representation of the orphan element.

14. (Currently Amended) A system for managing the preparation of a set of graphical elements for presentation, the system comprising:

a first data structure representing a first subset of the set of graphical elements requiring measurement;

a second data structure representing a second subset of the set of graphical elements requiring arrangement;

a first procedure using the first data structure for managing the measuring of elements, wherein the first procedure determines whether each graphical element in the first subset of graphical elements has any children and computes a size for any elements in the first subset of graphical elements having children, wherein the first procedure further comprises:

a) identifying a maximal element represented in the first data structure;

b) removing the maximal element's representation in the first data structure;

c) measuring the maximal element;

d) determining that a child element represented on the first data structure is a baby element when a parent element of the child element is being added to the first data structure;

e) removing from the baby element from the first data structure to minimize the number of elements in the first data structure; and
repeating the listed steps until the first data structure is empty; and

a second procedure using the second data structure for managing the arranging of elements, wherein the second procedure determines whether each graphical element in the second subset of graphical elements has any children and performs internal arrangement functions on any elements in the second subset of graphical elements having children.

15. (Canceled)

16. (Original) The system of claim 14 wherein the second procedure comprises the steps of:

- a) identifying a maximal element represented in the second data structure;
- b) removing the maximal element's representation in the second data structure;
- c) arranging the maximal element; and

repeating the listed steps until the second data structure is empty.

17. (Currently Amended) The system of claim 14 [[15]] wherein step c) of the first procedure comprises:

determining whether an element from an island associated with the maximal element requires measuring; and

measuring the element from the island associated with the maximal element if it requires measuring.

18. (Currently Amended) The system of claim 14 [[15]] wherein the first procedure further comprises:

f[[d]]) notifying a parent element of the maximal element that the measurements of the maximal element have changed.

19. (Currently Amended) The system of claim 14 [[15]] wherein the first procedure further comprises:

f[[d]]) determining that an orphan element represented on the first data structure is not to be measured; and

g[[e]]) removing from the first data structure the representation of the orphan element.

20. (Currently Amended) A computer-readable medium including computer-executable instructions facilitating managing the preparation of graphical elements for presentation in a system, computer executable instructions executing the steps of:

identifying a first subset of the elements where measurement is desirable, wherein identifying the first subset comprises using a first data structure to represent the first subset of the elements and wherein each element in the first subset has associated with it a respective island of elements;

identifying a second subset of the elements where arrangement is desirable, wherein identifying the second subset comprises using a second data structure to represent the second subset of the elements and wherein each element in the second subset has associated with it a respective island of elements;

executing a first series of operations for measuring the elements comprising the first subset, wherein the first series of operations further comprises:

- a) identifying a maximal element represented in the first data structure;
- b) removing the maximal element's representation in the first data structure;
- c) measuring the maximal element;
- d) determining that a child element represented on the first data structure is a baby element when a parent element of the child element is being added to the first data structure;
- e) removing from the baby element from the first data structure to minimize the number of elements in the first data structure; and

executing a second series of operations for arranging the elements comprising the second subset, wherein the second series of operations comprises ~~an operation of the second series of operations includes~~, determining whether each element in the second subset has any children and performing internal arrangement functions on any elements in the second subset of graphical elements having children, wherein the internal arrangement functions comprise computing a final size for a child element and utilizing the computed size to set a location for displaying the child element, wherein the location is stored as a coordinate of a geometric shape representing the child element.

21-22. (Canceled)

23. (Currently Amended) The computer-readable medium of claim 20 [[22]] wherein the first and second data structures are queues.

24. (Canceled)

25. (Currently Amended) The computer-readable medium of claim 20 [[22]] wherein the second series of operations comprises:

- a) identifying a maximal element represented in the second data structure;
- b) removing the maximal element's representation in the second data structure;
- c) arranging the maximal element; and

repeating the listed steps until the second data structure is empty.

26. (Currently Amended) The computer-readable medium of claim 20 [[24]] wherein step c) in the first series of operations comprises measuring an element from the island associated with the maximal element.

27. (Currently Amended) The computer-readable medium of claim 20 [[24]] wherein step c) in the first series of operations comprises:

determining whether an element from the island associated with the maximal element requires measuring.

28. (Currently Amended) The computer-readable medium of claim 20 [[24]] wherein the first series of operations further comprises:

f[[d]]) notifying a parent element of the maximal element that the measurements of the maximal element have changed.

29. (Currently Amended) The computer-readable medium of claim 28 wherein the first series of operations further comprises:

g[[c]]) in response to the notification in step d), placing a representation of the parent element in the first data structure.

30. (Currently Amended) The computer-readable medium of claim 20 [[24]] wherein the first series of operations further comprises:

$f[d]$) determining that an orphan element represented on the first data structure is not to be measured; and

$g[e]$) removing from the data structure the representation of the orphan element.